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No 1 Dr. Chapman

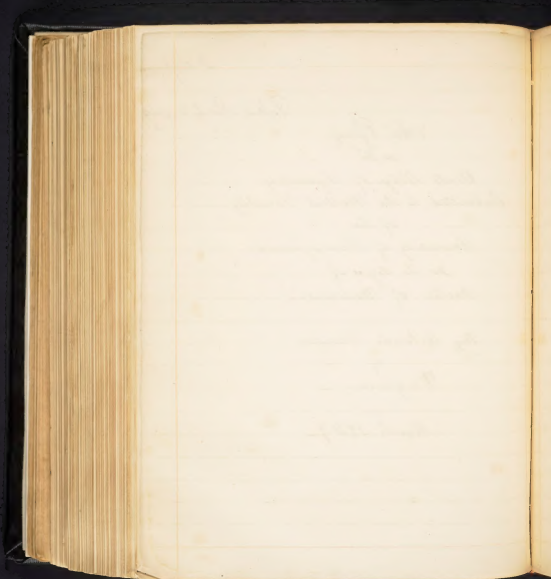
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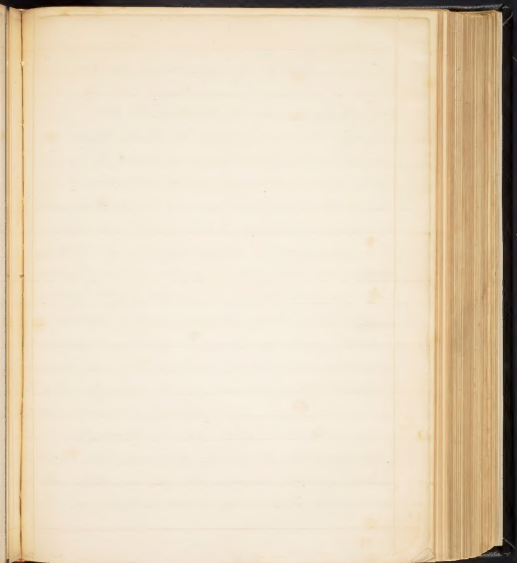
An Essay
on the

Acute Stage of Dysentery
Submitted to the Medical Faculty
of the
University of Pennsylvania
For the degree of
Doctor of Medicine -

By Orlando Fairfax
of
Virginia -

March. 1829 -





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On the acute stage of dysentery -

By the ancients the term dysentery, as we might be led to suppose from the etymology of the word, was applied to several diseases of the intestinal canal; by modern writers it has been restricted to a single affection, defined, in Caldwells Cullen, to be "a disease in which the patient has frequent stools, accompanied with much griping, and followed by a tenismus. The stools, though frequent, are generally in small quantities, and the matter voided is chiefly mucus, sometimes mixed with blood. At the same time the natural faeces seldom appear, and when they do, it is generally in a compact and hardened form" -

Dysentery prevails chiefly in warm climates, and generally makes its appearance in the latter part of the summer and in autumn. A few instances are recorded of its prevailing as

an epidemic in spring, and sometimes it has been known to continue from the fall for a greater part of the winter; but generally it is checked by the approach of winter. It is apt too to prevail where the early part of the season has been remarkably warm and succeeded by a long continuance of wet weather -

Those climates also which are characterized by great heat during the day, succeeded by cold and dampness at night, are peculiarly favourable to its prevalence -

In most cases of dysentery the first symptoms indicate an affection of the bowels; sometimes a common diarrhoea appears, which gradually passes to the form of dysentery; at other times there are gripes and painful stools, succeeding a state of costiveness - Clegborn says, "some are seized at first with a twisting of the guts, which, as they express it, draws up their bowels into knots; and many, instead of griping pains, which shift

from place to place, and come at intervals, have acute fixed ones in some particular parts of the belly, which occasion complaints as various as their seats; some being tormented with stitches about the bastard ribs, interrupting their breathing freely, as in the pleurisy; others with a pain reaching from one hypochondrium to the other, cutting them, as it were, in two; while others complain only of a pain about the pelvis, with a constant, fruitless, straining to stool; though the body is, for the most part, costive, or discharges nothing but bloody slime.

In miasmatic countries and situations favourable to the prevalence of fevers generally, dysentery frequently breaks out with all the symptoms of a genuine pyrexia, and retains this character in its whole course -

Sometimes, when its attack is most sudden, it comes on with nausea and vomiting, attended with great prostration and a weak and frequent pulse -

But however dysentery may commence, after the disease has become fully established the train of symptoms is pretty much the same, being modified only by the greater or less intensity of the disease and by the particular type which the fever may assume. As the disease advances, the griping and tenesmus are increased; the patient goes frequently to stool, but the discharges are exceedingly small. Together with these symptoms, there is generally a total want of digestion, and various indications of derangement of the primæ viæ; sometimes flatulency exists to such a degree as to constitute a real tympanitis. There is want of appetite; the mouth is foul, the patient complaining of a bitter taste; the tongue white and covered with tough mucus, or rough and dry and sometimes, in the advanced stage of the disease, dark brown or black. Aphthæ frequently appear about the root of the tongue, and spread over the internal fauces. The patient

frequently evinces great tenderness when the abdomen is pressed -

Accompanying these symptoms there is always more or less fever. This fever may assume any character - sometimes it will be inflammatory, at others, typhoid - sometimes it will be continued, at others, intermittent, or remittent -

The febrile symptoms generally accompany the disease through its whole course; especially when it terminates soon in a fatal manner. In other cases the febrile state almost entirely disappears while the proper dysenteric symptoms, remain for a long time after -

Wilson Philip mentions cases, under the name of dysentery, where there was no appearance of fever in any stages; but he adds, "that the affection of the bowels was very slight and of short duration"; and I am inclined to think, that these cases could scarcely have been entitled to being so classed -

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Stools - The matter discharged by stool, varies much in the course of the disease; sometimes it is mucus streaked with blood; sometimes the blood constitutes the greater part of the stool, and at others the whole of it. More rarely it is entirely unmixed with blood, and in this case the disease has been termed dyssenteria alba or morbus mucosus -

The natural faeces are retained during almost the whole course of the disease; and when they do appear, they are in the form of small hardened balls, which seem to have lain long in the cells of the colon -

In the advanced stage of the disease, the stools sometimes become sanious, and of a dark brown or black colour, with an almost insupportable, cadaverous, fætor -

Sometimes there is a discharge of membranous tubes, of a cylindrical form, resembling a piece of intestine; and frequently small bodies, which

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have the appearance of fat or cheese. Pure pus is also sometimes found in the stools.

Such are the discharges which usually take place in dysentery; but Sydenham mentions cases of the disease, where there were no stools of any kind.

Post mortem appearances - When death has occurred early in the disease, the intestines are found irregularly contracted; but if the disease have been of longer standing, they are frequently found enlarged, the effect of increased distention by air; in some cases the colon particularly has been found so much distended, that the appearance of its cells, and even of the ligaments which formed them, has been almost entirely obliterated.

The mucous coat, particularly of the large intestine, is always inflamed, being sometimes of a redolish colour, and at other times livid, which latter appearance is frequently mis-



taken for gangrene. This coat is also frequently ulcerated, the ulcers sometimes extending to the other coats and perforating them. Sometimes it is studded with numerous tubercles of a pale red or yellow colour, and some of them cleft at their summits, resembling small warts. At other times this membrane will be found gangrenous and soft in parts, seeming to be discoloured into a soft, greenish putrid mass.

This gangrenous state is not always confined to the mucous coat, but frequently extends to the other coats: they are found thickened and tumid, and, here and there, tender, as if putrid.

Dr. Cligdon informs us, that in some instances he found small abscesses in the cellular membrane of the peritoneum, contiguous to the colon and rectum; and sometimes the different convolutions of the intestines adhering to each other by their peritoneal coat.

The mesenteric glands are generally found enlarged and tumid.



The other viscera of the abdomen are frequently sound - The gall bladder, though, is sometimes much distended, and filled, with bile of a darker colour than usual; and the liver, spleen and pancreas have been found flaccid and enlarged, more rarely, diminished in size and indurated. They have been found too filled with abscess or gangrenous.

Causes - For a long time dysentery was universally thought to be dependent on contagion, but, of late years, this opinion has been almost entirely abandoned; at least, as respects the ordinary forms of the disease, though it is still believed by some, that in its aggravated forms, it is capable of reproducing itself, in crowded and ill ventilated apartments.

I do not wish here to enter into a long discussion on the merits of this question; I will only express my belief, that in a climate and season favourable to the prevalence of dysentery, the simple fact of crowding numbers



into the same apartment, will be found fully adequate
to the production of the disease -

Atmospherical vicissitudes, or whatever tends to sup-
-press the cutaneous and biliary secretions, are a very
common cause. Alas certain ingesta; as unripe fruits,
unwholesome vegetables, spoiled food of whatever kind.
An entire change of diet: from animal to vegetable,
or vice versa, or from salt meats to fresh, may also
produce it. DeWAR, in his account of the dysentery
which prevailed in the British army, during a
campaign in Egypt; mentions that many of the
soldiers were attacked with the disease from gen-
-erally indulging in the use of fresh mutton and
buffalo beef, after having been confined for a long
time to salt meats -

The same author observes, that, in Egypt, drink-
-ing immoderately of cold water, frequently excites
the disease, and that, the natives were so well
aware of this fact, that they would drink it on-
-ly in the smallest quantities, taking it up in



the palms of their hands -

Dysentery prevails also frequently as an epidemic.

Diagnosis - The only disease, with which dysentery can be confounded, is diarrhoea; and from diarrhoea it is sometimes not easily distinguished - Dr. Cullen says, diarrhoea differs from dysentery in being generally without fever, and accompanied with the evacuation of the natural excrements, which are, at least, for some time, retained in dysentery - Fortunately the distinction is not practically of much importance -

Prognosis - We may look for a favourable termination, when the case is open and inflammatory in its early stage; when the febrile symptoms are mild, some degree of appetite remains, and the patient is little troubled with nausea; when the pain is not very severe, nor the stools very fetid; when the emaciation, weakness and anxiety are not considerable; and above all when



the patient enjoys sleep, and the skin is soft and moist -

But we have much reason to be alarmed, when great debility attends from the commencement; when a livid purging comes on, whatever is taken being passed with little change; when the pulse becomes extremely frequent, small, and irregular; when the skin is bedewed with cold, clammy, and partial sweats; and when the extremities become cold - And more than ever should we be alarmed, when the pain and tenesmus suddenly remit; the anxiety at the same time increasing, with dark coloured and offensive stools, and a Hippocratic countenance; for we may be assured that mortification has taken place -

Pathology - Dysentery consists in an inflammation of the mucous membrane of the alimentary canal, accompanied always by disorder in the functions of the liver and



skin. These disorders in the perspiring and biliary secretions generally, and perhaps always, precede the inflammation of the mucous membrane and may be considered as its proximate causes. From the suppression of the secretion of the skin, the volume of the blood is directed to the interior, the effect of which is plethora in the mesenteric vessels, and inflammation of the mucous membrane of the intestinal canal, succeeded by general fever. At the same time the disorder of the biliary secretion gives rise to indigestion, and indirectly to irritation and inflammation of the mucous membrane of the canal.

In those cases which commence with the ordinary symptoms of fever, and in which the symptoms of an affection of the lower bowels do not appear for several days, the original seat of the disease is still in the alimentary canal, but higher up, in the stomach and duodenum; and as the inflammation travels down the canal, the proper dysentery symptoms show themselves. In



such cases the disease seems more intimately connected with a depraved state of the biliary secretion.

In a little while, the inflammation extends from the mucous, to the muscular coat of the intestine, occasioning spasmodic contractions, which are evinced by the griping pains, always felt in this disease. The inflammation sometimes extends also to the peritoneal coat, giving rise to inflammation of the abdomen.

The tenesmus, so distressing in dysentery, is the result of the highly irritated state of the rectum.

The profuse discharge of mucous fluids is the consequence of the attempts of the inflamed mucous membrane to relieve itself by secretion. Sometimes the secreting vessels of this membrane, instead of secreting mucus, pour out serum or blood in large quantities.

The purulent discharges may depend on ulceration, but not necessarily, for it is a peculiarity



of mucous membranes. that, when inflamed they secrete pus even before the inflammation has arrived at the adhesive stage.

The cylindrical tubes resembling pieces of intestine, are formed by effusions of coagulable lymph on the surface of the intestine, which accounts for their cylindrical form. The lymph is mixed with small quantities of inspissated mucus which gives it a greater degree of consistency. The small cheesy or fleshy substances are probably the same in composition.

The scybala are portions of the natural faeces, which have lain long in the cells of the colon, or in the unnatural cavities formed by the irregular contractions of the intestines and are discharged as these contractions become relaxed, either by the remission of the disease, or by mortification.

In those cases related by Sydenham, where there were no discharges of any kind,



the mucus membrane must have been inflamed beyond the searling point.

Treatment. If the pathology which has been given be correct, the chief indications in the cure will manifestly be, to restore the healthy secretions of the liver and skin, and to remove the inflammation of the intestinal canal.

The treatment must of course be varied, to suit the different forms of the disease. In the inflammatory form, it has been usual with Drs. Chapman, Mosley and other high authorities to precede the use of all other remedies by that ~~is~~ of the lancet. The latter gentleman says, there are very few cases in which venesection may not be safely resorted to in the commencement of the disease. And we are told by the celebrated Dr. Sir Johnson, in his admirable treatise on the diseases of



tropical climates that "whenever blood appears alarming-
ly on the stools, ~~whether~~ the fever run high or not,
resection may be employed, without the slightest
apprehension of that fearful debility." Venesections,
acting on the principal of revulsion, determine, at
once, the blood from the mesenteric vessels, and checks
the effusion from the mucous surface of the intes-
tine. A general relaxation follows - intestinal stric-
tures are removed - scybala and fecal accumula-
tions pass off; and the softening of the skin, with
the partial restoration of its secretions, evinces, that
there is an approach to equilibrium in the circula-
tion. At the same time the system acquires a
full susceptibility to the operation of medicines,
which, previously to detracting blood we might
have administered in vain.

It was the practice of Dr Mosley, to follow
the use of the lancet by an emetic of Spessacian-
ha; but Dr Chapman, very properly in my opin-
ion, limits this practice to those cases, so com-



mon in miasmatic countries, where there are accumulations of bile, and other irritating fluids, in the stomach and duodenum, giving rise to nausea and vomiting.

Our next remedy is purging. All writers have concurred in the use of cathartics; the only questions which have been agitated among them, are how far purging should be carried, and what cathartic should be chosen. Conformably to the pathology which has been given in this paper, and in which it was stated, that the liver is always more or less in fault, mercurial purges are to be preferred; and among them calomel seems particularly entitled to our preference. It is generally given in combination with some other purgative as rhubarb.

Caster oil and Epsom salts are used by many practitioners instead of calomel.

Dr. W. Philip declares, that, for procuring a free discharge from the bowels, he has found no



medicine as effectual as ipecacuanha given in doses as small as to prevent its emetic effect. The same author speaks favourably of small and repeated doses of tartarized antimony, as a cathartic, in those cases where the inflammatory tendency and excitement are considerable; but he observes that he considers it inferior to ipecacuanha. These medicines may all answer a very good purpose, but on the whole, I prefer calomel, for the reason before mentioned.

After we have once succeeded in evacuating the intestines, and have reduced the febrile symptoms to that point, where it will be safe to use it; we must resort to opium. Our indication in using opium is not only by its sedative effect to allay inflammation of the intestines, and thus to relieve tormina and tenesmus, but by its diaphoretic powers to determine to the skin and equalize the circulation. Its operation may be very much improved by combining

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it with ipecacuanha. Indeed, in this disease, it
should never be used alone, as it is in combination
much less apt to produce headach and other
disagreeable symptoms, which sometimes follow
its exhibition. It may be given in the form of
Fower's powder; or when it is necessary to contin-
ue the evacuations of the intestinal canal, Dr.
Chapman recommends, that calomel should be
added. His formula is, as follows.

℞ Calom. - - gr. Xvi

Sulph. Opii - gr. iv

Specac. - - gr. viij. M. & div. in

puls. viij. one every 2 or 3 hours, as necessary.

Dr. Chapman says, This is not the most active
diaphoretic we possess, "but," says he, (I believe
I quote him right) "it produces effects, at the
crisis still more important, it compasses irritation,
relaxes the surface, gently evacuates the bowels, and
makes new impressions, which are altogether un-
intelligible."



Practitioners have differed much, as to the extent to which they have carried the use of diaphoretics in this disease; though all have agreed in the necessity of restoring the functions of the skin. Dr. Mosley agreeing with Sydenham, that, "Dysentery is a fever, sanguinis, turned in upon the intestines, for want of a free and regular perspiration," relied almost exclusively on the use of sweating for the cure of the disease. This plan may have succeeded in the hands of Dr. M. but we have excellent authority for saying, that in the hands of many other judicious physicians, with whom it received a fair trial, it has repeatedly failed. The very fact, that, in some instances, the sweating does not relieve the tenismus, and the patient has, in a heated condition, to go to stool when, unless he be very carefully nursed, and have every convenience around him, he will be very liable to a check of perspiration, should be sufficient to banish this method from the



practice of arms, and from all places where the strictest attention and best accommodations can not be obtained for the sick.

But although sweating should not be exclusively relied on, it is always important to keep up, if possible, a proper degree of action in the cutaneous capillaries. For this purpose, together with our diaphoretic medicines, we should adopt such means as will most effectually protect the surface, particularly that of the abdomen, from exposure; for in no other disease is the patient so exquisitely sensitive to the action of cold. Dewar, an author whom I have before quoted, remarks, that "the accidental admission of cold air, or a momentary removal of the accustomed covering, produces sometimes a death-like chilliness, sometimes an acute pain, passing through the abdomen, and striking to the heart"

The most effectual mean which we possess

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for keeping the body at an uniform temperature is a flannel roller applied around it. The manner of applying this roller, with the excellent effects resulting from its use, is well described by the author just mentioned. He directs, that several folds of flannel or a thick piece of flannel hosey should be applied to the abdomen, and over this a flannel roller should be bound, pretty lightly and in an uniform manner, from the groin nearly to the axilla, and then down again. He highly did Dr. Dewar esteem this measure, that he mentions it as the chief of his remedies, and as being in many cases of chronic dysentery, competent alone to effecting a cure. But he does not, by any means, limit to the chronic form, but declares it to be applicable to all the stages, and that generally, the earlier it be applied, the more speedy will be the cure.

But, in order to reap the full advantage of it, it is necessary, that the bandage should be applied with great care, so that it may not grow loose, and slip up, leaving the lower part of the abdomen bare.



It was usual with Scur to commence by making the bandage fast round one of the thighs, and then, having made a few turns round the body, to carry it to the other thigh, proceeding, afterwards, to finish by applying it round the body. He also used sometimes an additional strap, which passed between the thighs serving more effectually to keep down the part of the bandage which encircled the body, and also to protect the extremity of the ulcers, being furnished, at this part, with a pledget of wool.

The warm bath has been much praised, in the disease, but it is objectionable, in several points; as the difficulty of keeping it at precisely the proper temperature; the inconvenience and danger of taking the patient frequently from his bed; and sometimes, the impossibility of obtaining a proper bathing tub. The flannel bandage possesses all its virtues without its disadvantages, and should, in every case, supersede its use.

Several other external applications have been

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found very useful, particularly blisters. The blisters should be used with the usual precaution, that is waiting until the force of inflammatory action shall have abated, and should be applied so as to cover the greater part of the abdomen.

In some cases besides the general uneasiness and occasional griping, which always attend the disease, there is a fixed pain in some region of the abdomen which resists all our attempts to remove it. This indicates a more decided inflammation in some particular part of the intestines, and here we shall find blisters particularly efficacious. Leeches and warm fomentations to the abdomen have been highly spoken of under similar circumstances. But there are objections which apply to all the three last mentioned remedies, namely, that the patient must be somewhat exposed during their application, and that it will be necessary to remove the flannel roller which I consider ~~as~~ more important than either of them. When we do not wish to resort to these



means, and where the constitution will bear it, we may frequently attain the same ends by general bleeding.

I shall now say something of the remedies which should be directed particularly to the *termina* and *intestina*. The former of these affections I have said, depends on irritation and inordinant contraction of the muscular coat of the bowels, the latter on the irritated state of the mucous coat, particularly of that of the rectum. They are both however frequently kept up by the same causes, and relieved by the same means. A very common cause is the presence of hardened feces. Our best remedy therefore in such a case is an evacuant, as a dose of some purging salt, as castor oil. Dr. Chapman recommends a combination of Castor oil and laudanum, according to the following formula

R	Ol. Ricini - - -	℥ij	} M.
	S. Arab. - - -	℥ij	
	Laudan - - -	gtt. Lxx.	
	Aq. Menth. - - -	℥ij.	

℞ to be given every 1, 2 or 3 hours -



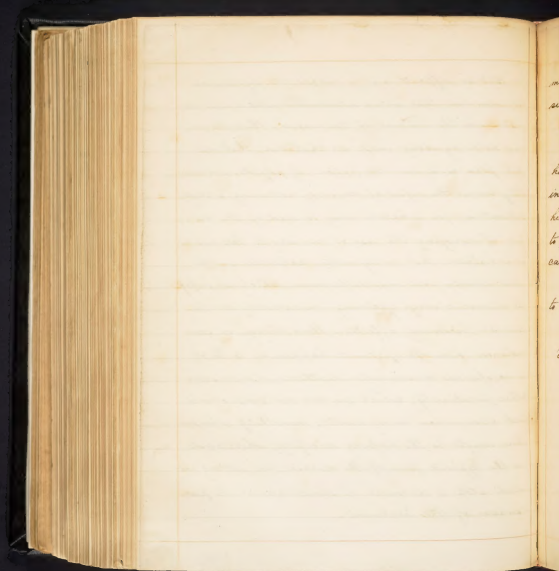
Much relief will frequently result from the use of anodyne and of cooling emollient glysters, as of laudanum and starch, or of cold flax seed tea, or of cold water. Leeches applied round the verge of the anus, are also very serviceable. In all cases where there is much tenismus, the anus should be protected by a pledget of wool.

The diet in dysentery should consist of mucilaginous substances, such as barley water, decoction of the bark of the slippery elm, or decoction of flax seed &c.

Such is the treatment of the acute stage of the disease, when of the inflammatory kind; but when it assumes a typhoid character, our treatment must be, in many respects different - We must use all the precautions necessary in the treatment of other typhoid fevers, that we may not exhaust the strength of our patient; and should exhaustion, nevertheless, occur, we must resort to the usual stimulants for affording support.

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But so difficult is it to support the system at the same time that we are administering the usual remedies for the removal of the disease, that I can not help agreeing with Dr. Chapman, that our best plan is to put the patient, if possible, immediately under the effect of mercury, inducing a slight salivation; for, whatever may be said of the danger of carrying the use of mercury to this extent, it is certain, that, in dysentery, salivation is the most speedy and infallible mean which we possess, the disease always yielding immediately on the mouth becoming affected. And though in some instances, from the patients happening to be of a scrofulous or scorbutic diathesis, or from some other peculiarity, which we can not comprehend, bad consequences may result; nevertheless whenever there might be the pressing necessity, which exists in the typhoid form of the disease, for putting immediate stop to its course, I should advise the pursuance of this treatment.



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Treatment of the pathology

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